Remarks/Arguments

As of the Office Action of October 9, 2007, claims 7, 9, 10 and 12-20 remain pending.

Claims 7, 9, 10, and 12-20 have been rejected under 35 USC § 103 as either being unpatentable over Munteanu et al. (U.S. Patent No. 4,428,869). For the reasons below, it is not believed that Munteanu et al provide a prima facie case of obviousness of the claimed invention.

As an initial matter, claim 7 has been amended to incorporate the features of uniform dispersion of the structuring agent. No new matter has been entered.

For convenience, the text of independent claim **7** is written below:

> A microencapsulated material, comprising:
>
> a core component, wherein said core component is at least one of oxygen sensitive or water sensitive; and
>
> a shell component encapsulating said core component, wherein said shell component comprises a polymer material and a structuring agent having an average particle size from about 0.1 to about 1 μm dispersed into said polymer material at a level of about 1 to 50 % by weight of the shell component, wherein said polymer material comprises pendant ionic groups that form an ionic bridge with said dispersed structuring agent, wherein said structuring agent decreases oxygen and water permeability through said polymer material and wherein said structuring agent is uniformly dispersed in said polymer material.

It is worth pausing for a moment to emphasize the following regarding independent claim 7. First, the claim is directed at a microencapsulated material. It is not directed at a chemical composition as it recites a core component and a shell component encapsulating the core. It also adds the feature that the shell comprises a polymer material and structuring agent dispersed in the polymer material. The polymer material is one that has pendant ionic groups which form an ionic bridge with the dispersed structuring agent. The claim ends with the feature that the structuring agent is such that it decreases the oxygen and water permeability through the polymer material and that the structuring agent is uniformly dispersed in the polymer material.

With the above in mind, Applicants would like to carefully consider the analysis offered in the Office Action of October 9, 2007.

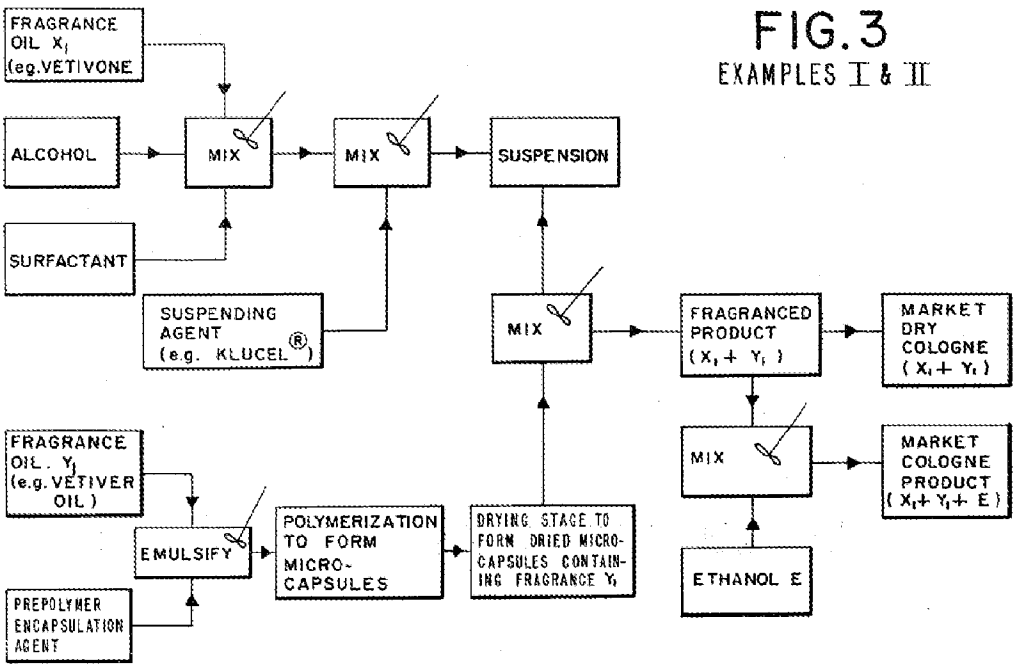
First, at pages 2-3 and paragraphs 4, 5, 6, and 8 of the Office Action, Munteanu (U.S. 4,428,869) is discussed. In particular, at paragraph 8, Applicants note that it was properly recognized that Munteanu did not disclose a feature of claim **7**, and it was written as follows:

> "However, Munteanu does **not** disclose the presence of the structuring agent in the continuous phase or that the resulting microcapsule shell comprises a dispersion of the structuring agent in the polymeric material." Emphasis added.

It was nonetheless concluded that it would have been obvious to one of ordinary skill in the art to have included the structuring agent in the polymeric continuous phase during the formation of the microcapsules, in order to include an agent that, as disclosed above, is capable of decreasing the oxygen and/or water permeability of the polymeric material, and assists in preservation of the core component." See, Office Action of October 9, 2007, at 3, paragraph 8, emphasis added.

However, applicants respectfully submit that the disclosure regarding the use of a polymer with pendant ionic groups that form an ionic bridge with a dispersed structuring agent, and its associated capability to decrease oxygen and/or water permeability, appears to have been sourced from Applicants disclosure, and does not appear at all in Munteanu. The reference in the language underlined above from page 3 of the Office Action did not lead Applicants to any citation in Munteanu regarding the use of a structuring agent, in a polymeric continuous phase, where the polymer contained pendant ionic groups, that formed an ionic bridge with the dispersed structuring agent, to decrease oxygen and water permeability.

Certainly, Applicants understand that Munteanu discloses the use of a *suspending agent*, as set forth in **FIG. 3** of this reference, and as reproduced below for the convenience of the Examiner:



Munteanu therefore teaches that with respect to what is termed the "**non-confined fragrance**" such is prepared according to the upper left hand portion of **FIG. 3**, and involves mixing of the fragrance with alcohol and a surfactant, and then the **suspending agent**. This is **not** a teaching of utilizing such suspending agent along with a polymer containing pending ionic groups and forming an ionic bridge with such suspending agent to decrease oxygen and water permeability.

Examining this deficiency of Munteanu in even more depth, and as previously noted, Munteanu also discloses (see, lower left hand side of **FIG. 3**) the formation of an "**entrapped fragrance**." This involved combining the fragrance with a prepolymer and emulsifying and

polymerizing. Applicants would therefore note that in such context, Munteanu disclosed and taught to one of ordinary skill in the art that when it came to polymerizing, and forming the entrapped fragrance, one should **not** utilize any sort of suspending agent, as the use of the suspending agent was reserved for the formation of the "non-confined" fragrance.

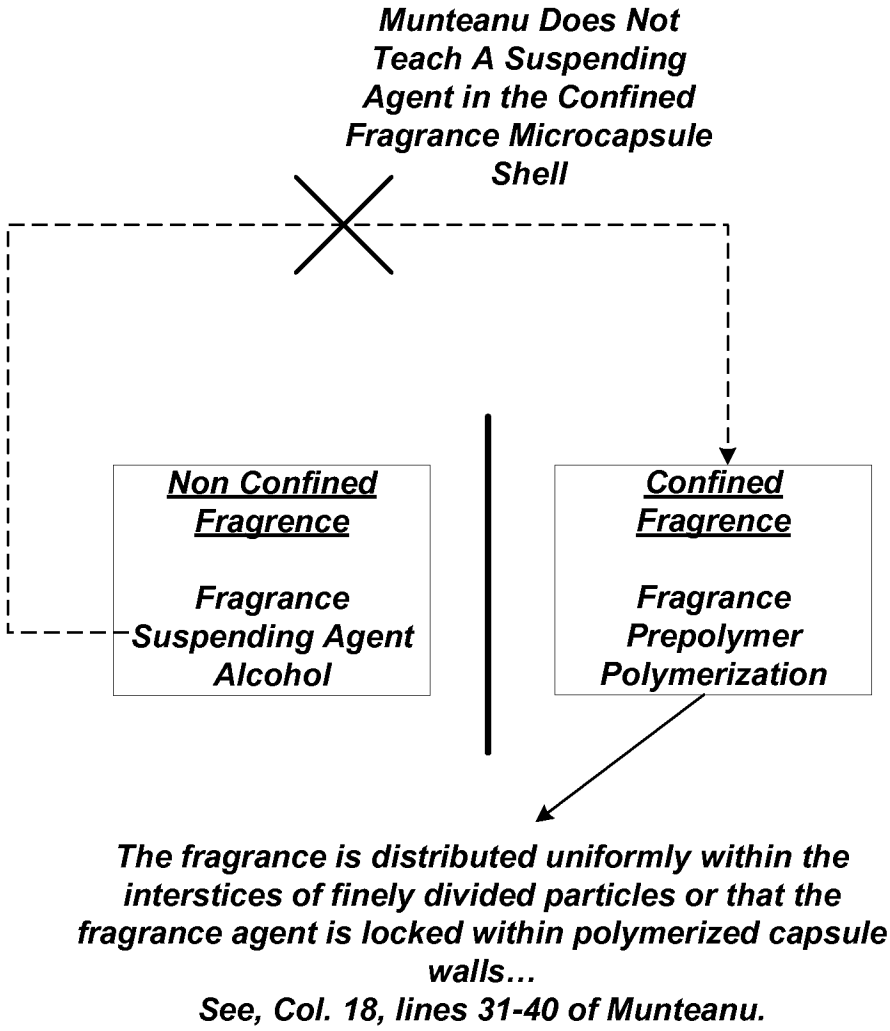
Applicants note that the Office Action cited the disclosure of Munteanu at col. 17, lines 2-14, where Munteanu offered a summary perspective of his disclosure, and its use of what were termed "physical forces." The full text is worthy of consideration:

> "In summary, in carrying out the process of our invention, sustained release fragrances are prepared by combining non-confined fragrance oils with encapsulated or physically entrapped fragrance oils. These combinations are fashioned so that the free fragrance oil or fragrance oil emulsion are bound in a network of physically entrapped fragrance oil and suspending agent. The thixotropic pastes or free-flowing powders which result are products where the unconfined fragrance oil or unconfined fragrance oil emulsion, the "encapsulated" or physically entrapped fragrance oil and suspending agent are held together by physical forces."

Accordingly, one of ordinary skill in the art would understand that a "non-confined fragrance" may be formed with a "suspending agent", along with "entrapped fragrance oils." One would also understand that this may then provide a "thixotropic paste" or "free flowing powder." One would also understand that the non-confined fragrance and entrapped fragrance would be held together by "physical forces." However, that is still not a teaching of the feature recited in the claims of the use of a shell component comprising a polymer material with pendant ionic groups that form an ionic bridges with a uniformly dispersed structuring agent.

In fact, it is believed that Munteanu's teaching may be more visually summarized as follows, where it is clear that Munteanu did not teach or suggest that the "suspending agent"

would be utilized for anything more than to suspend and was not part of the confined fragrance composition:



Applicants next note that at paragraph 7 of the Office Action of October 9, 2007, there was a suggestion that, with respect to Munteanu, "products of identical chemical composition can not have mutually exclusive properties." It was then suggested that the burden shifted to Applicants to show an unobvious difference.

As noted above, the present invention as recited in the claims is not simply a chemical composition in terms of a particular chemical compound or particular chemical structure. It is, as noted, a microencapsulated material. In addition, with respect to the request for a showing of an unobvious difference, Applicants would direct attention to **Example 1** in paragraph [**0061**] of the published application. There, a comparison is offered regarding the feature of utilizing the structuring agent (glycerin or Kaolin) in a polymer film (Gelain 300A). As shown, in the absence of dispersing the structuring agent in the polymer, the oxygen transmission rates (OTR) is reported at 18.09-24.54 (cc/100 in^2/mil). By contrast, when dispersing the structuring agent, the values drop significantly, depending upon the structuring agent and it concentration relative to the polymer (e.g., values shown in the table for OTR at paragraph [**0061**] are 11.5, 3.55 and 2.84). This improvement in OTR is not disclosed, suggested, expected or predictable from Munteanu, for the reasons noted above, as Munteanu simply did not recognize that such improvement in OTR could be achieved by providing a microencapsulated material with a core component, and the use of a shell containing a polymer material and structuring agent, where the particle size of the structuring agent so dispersed is 0.1 to about 1 micron, and the feature that the polymer material comprises pendant ionic groups that form an ionic bridge with the dispersed structuring agent. See again, claim 7.

Applicants note that at paragraph 6 of the Office Action of October 9, 2007 it was written that "it is inherent that the polymeric material comprises pendant ionic groups that form an ionic bridge with the structuring agent, as evidenced by Applicants' disclosure in paragraphs 18, 21, 51 and the examples." Applicants do not believe that it can be found that Munteanu inherently discloses the use of a polymeric material with pendant ionic groups that form ionic bridges, as

part of a shell component, on the basis of Applicants' disclosure in paragraphs 18, 21, 51 and in Applicants' examples.

Again, as illustrated above, Munteanu teaches and discloses that the suspending agent is limited to use in the "non-confined fragrance" portion and the "confined fragrance" is one that does **not** use any sort of suspending agent (where for the purposes of this discussion, Applicants understand that the Examiner interprets the reference in the pending claims to a structuring agent to read on a Munteanu's suspending agent). However, a claim limitation is inherent in the prior art if it is necessarily present in the prior art. *Rosco v. Mirror Lite*, 304 F.3d 1373, 1380, 64 USPQ2d 1676 (Fed. Cir. 2002). To establish inherency, the extrinsic evidence must make clear that the missing descriptive matter is necessarily present in the thing described in the reference and that it would be recognized by persons of ordinary skill. **MPEP § 2112**, citing *In re Oelrich*, 666 F. 2d 578, 581-582 212 USPQ 323, 326 (CCPA 1981). As it has been recognized that Munteanu fails to disclose the presence of a structuring agent in the continuous phase or that the resulting microcapsule shell comprises a dispersion of a structuring agent in the polymeric material (Office Action at page 3, paragraph 8), it is not believed reasonable to simultaneously find that the feature of specifically utilizing a polymeric material with pendant ionic groups that form an ionic bridge with a structuring agent, in the shell of a microcapsule, is somehow an inherent feature of the subject reference.

Applicant also note that at paragraph 17, the Office Action suggested that with respect to the feature of uniform dispersion of the structuring agent in the polymer material, that in view of the coacervation process of Munteanu, "post addition of the structuring agent in the continuous polymeric material phase the phase would be mixed and inherently the structuring agent would

be uniformly dispersed." As the Examiner may appreciate, Munteanu references the use of coacervation only in the context of formation of the "confined fragrance." Munteanu does not teach or suggest the use of the suspending agents in such process. When Munteanu does engage in what the Examiner identified as "post addition of structuring agent" it would, as also recognized by the Examiner, not lead to uniform dispersion, and at best, only a gradient. See, Office Action of October 9, 2007 at paragraph 19.

Finally, Applicants reviewed paragraphs 20-24 of the Office Action of October 9, 2007, where it was indicated that Applicants' earlier arguments were not considered persuasive. In paragraph 22 it was stated that the first reason for this was that an entrapped fragrance can be released either hydrolytically or by means of application of mechanical pressure. The Office Action then pointed out that Munteanu did not prefer either of the two alternatives. It was not entirely clear to Applicants why Applicants earlier arguments regarding a missing feature of Munteanu's "confined fragrance" could be found non-persuasive on the grounds that Munteanu's mixture of a "non-confined fragrance" and "confined fragrance" might release the fragrance via two methodologies (hydrolytically or mechanically).

In any event, Applicants note that the second reason provided for rejecting Applicants' earlier arguments was that the proposed modification of Munteanu would not change the principal of operation of Munteanu. However, as noted, Munteanu simply does not teach or suggest a proposed modification regarding the placement of a structuring agent in the continuous phase of the shell component or that the resulting microcapsule shell comprises a dispersion of the structuring agent in the polymeric material. Nor does the reference disclose the use of a polymer material with pendant ionic groups that form an ionic bridge with the dispersed

structuring agent. Munteanu does not disclose any of the unexpected improvements in oxygen permeability that is recited in the claim and supported in the specification by way of comparative examples. Accordingly, it is submitted that one of ordinary skill in the art would not consider it obvious to make such a modification to Munteanu, who as noted draws a sharp distinction and instructs that the "suspending agent" is utilized *only* in the "non-confined fragrance." In addition, it is not considered to be proper to conclude that Munteanu renders the pending claims obvious, since Munteanu could be modified to include his suspending agent in the confined fragrance (using Applicants disclosure as the basis to do so) and that it could be done in Munteanu without changing Munteanu's principal of operation.

Again, the Office Action of October 9, 2007, at page 6, paragraph 19 recites that "Munteanu discloses a microcapsule where a core component is encapsulated in a shell, and the shell component comprises a polymer material coated by a structuring agent." A teaching of only coating with a structuring agent is inapposite to the limitations noted in claim 7, and discussed at length herein.

In light of the above, Applicants respectfully submit that claims 7, 9, 10 and 12- 20 are not taught or suggested by the cited references. In consideration of the foregoing Applicants respectfully requests that the rejections of claims 7, 9, 10 and 12-20 are withdrawn upon reconsideration.

Having overcome all of the outstanding rejections, it is respectfully submitted that the application is now in condition for allowance. Early and favorable action is respectfully solicited.

In the event that there are any fee deficiencies, or additional fees are payable, please charge, or credit any overpayment to, our Deposit Account No. 50-2121.

Respectfully submitted,

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